Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) Process for the isolation in aqueous phase of a nucleic material present in a sample by adsorption of said nucleic material onto a particulate support, comprising:

(a) providing an adsorption reagent comprising a sol consisting of an aqueous continuous phase and a discontinuous phase of the particulate support, which comprises a functionalized, particulate polymer, said polymer being obtained by polymerization of (1) a first water-soluble monomer of acrylamide or of an acrylamide derivative, (2) at least one cross-linking agent, and (3) at least a second cationic and water-soluble functional monomer, said polymer having a predetermined lower critical solubility temperature (LCST) which is between 25 and 45°C,

(b) bringing into contact the adsorption reagent with the sample containing the nucleic material to ~~adsorb~~ form a sol having an aqueous continuous phase and a discontinuous phase in which the nucleic material is adsorbed to the particulate support,

wherein, in said contacting step (b), the ~~reaction medium~~ sol has:

- a pH at most equal to 7,
- an ionic strength at most equal to 10^{-2} M, and
- a temperature less than the LCST of the polymer,

(c) optionally observing that the adsorption has taken place,

(d) separating the discontinuous phase from the continuous phase, and

(e) dissociating the nucleic material, by desorption, from the particulate support by increasing the ionic strength up to an ionic strength greater than 10^{-2} M.

2. (Previously Presented) Process according to Claim 1, wherein for the desorption step (e), at least one of the parameters selected from the pH and the temperature is in addition varied as follows:

- increase in the pH up to a pH greater than 7,

- increase in the temperature up to a temperature greater than the LCST of the polymer.

3. (Currently Amended) Process for the isolation in aqueous phase of a nucleic material present in a sample by adsorption of said nucleic material onto a particulate support, comprising:

(a) providing an adsorption reagent comprising a sol consisting of an aqueous continuous phase and a discontinuous phase of the particulate support, which comprises a functionalized, particulate polymer, said polymer being obtained by polymerization of (1) a first water-soluble monomer of acrylamide or of an acrylamide derivative, (2) at least one cross-linking agent and (3) at least a second cationic and water-soluble functional monomer, said polymer having a predetermined lower critical solubility temperature (LCST) which is between 25 and 45°C,

(b) bringing into contact the adsorption reagent with the sample containing the nucleic material to ~~absorb~~ form a sol having an aqueous continuous phase and a discontinuous phase in which the nucleic material is adsorbed to the particulate support,

wherein, in said contacting step (b), the ~~reaction medium~~sol has:

- an ionic strength at most equal to 10^{-2} ~~2~~ M,

- a pH at most equal to 7, and

- a temperature less than the LCST of the polymer,

(c) optionally observing that the adsorption has taken place, and

(d) separating the discontinuous phase from the continuous phase.

4. (Canceled)

5. (Previously Presented) Process according to Claim 1, wherein the particulate support consists of a functionalized particulate polymer obtained by polymerization of (1) a first water-soluble monomer of acrylamide or of an acrylamide derivative, (2) at least one water-soluble cross-linking agent and (3) at least a second cationic and water-soluble functional monomer, said polymer having a predetermined lower critical solubility temperature (LCST) which is between 25 and 45°C.

6. (Previously Presented) Process according to Claim 1, wherein the particulate support comprises, in addition, an organic or inorganic core, completely or partially coated with said particulate polymer, said core not modifying the adsorption properties of the polymer in relation to said nucleic material.

7. (Previously Presented) Process according to Claim 6, wherein the core is a polystyrene core.

8. (Previously Presented) Process according to Claim 6, wherein the core comprises a magnetic compound.

9. (Currently Amended) Process according to Claim 1, wherein at least one probe and/or primer capable of specifically hybridizing to the nucleic material is added to the sample before contacting the adsorption reagent and the sample, or to the ~~reaction medium~~sol after contacting the adsorption reagent and the sample.

10. (Currently Amended) Process according to Claim 1, wherein:

in the contacting step (b), the adsorption reagent is brought into contact with the nucleic material, the nucleic material consisting of a primer, in order to obtain a hybridization reagent, and

after having optionally observed that the adsorption has taken place, and separated the hybridization reagent from the ~~reaction medium~~sol, said hybridization reagent is brought into contact with a medium containing at least one nucleic acid or nucleic acid fragment, under suitable conditions for the hybridization or the extension of the primer.

11. (Previously Presented) Process according to Claim 1, wherein the LCST of the polymer is between 30 and 40°C.

12. (Previously Presented) Process according to Claim 1, wherein the first monomer (1) is selected from N-alkylacrylamides and N,N-dialkylacrylamides.

13. (Previously Presented) Process according to Claim 12, wherein the first monomer (1) is selected from the group consisting of N-isopropylacrylamide, N-ethylmethacrylamide, N-n-propylacrylamide, N-n-propylmethacrylamide, N-isopropylmethacrylamide, N-cyclopropylacrylamide, N,N-diethylacrylamide, N-methyl-N-isopropylacrylamide, and N-methyl-N-n-propylacrylamide.

14. (Currently Amended) Process according to Claim 1, wherein the second functional monomer(s) (3) are selected from the group consisting of cationic acrylic and methacrylic derivatives, 2-aminoethylmethacrylate chloride (AEM), ~~the~~ N-vinylpyridine derivatives, trialkylammonium derivatives and isothiouronium chloride derivatives.

15. (Previously Presented) Process according to Claim 1, wherein the cross-linking agent (2) is N,N-methylenebisacrylamide (MBA) or ethylene glycol dimethacrylate.

16. (Previously Presented) Process according to Claim 1, wherein the polymer is obtained in the presence of a polymerization initiator selected from water-soluble neutral and cationic initiators.

17. (Previously Presented) Process according to Claim 3, wherein it comprises, after the separation step (d), a desorption step according to which the nucleic material is dissociated, by desorption, from the particulate support by varying at least one of the parameters selected from the group consisting of ionic strength, pH and temperature, as follows:

- increase in the ionic strength up to an ionic strength greater than 10^{-2}M,
- increase in the pH up to a pH greater than 7,

- increase in the temperature up to a temperature greater than the LCST of the polymer.

18. (Previously Presented) Process according to Claim 1, wherein the separation step (d) is performed by a technique selected from the group consisting of centrifugation, filtration, precipitation, sedimentation, and the application of a magnetic field.

19. (Previously Presented) Process according to claim 13, wherein the first monomer is N-isopropylacrylamide (NIPAM).

20. (Currently Amended) Process according to claim 16, wherein the polymerization initiator is ~~2,2~~$^{+}$2,2'-azobisamidinopropane chloride (V50).

21. (Previously Presented) Process according to Claim 1, wherein, for the desorption step (e), the temperature is in addition varied to a temperature greater than the LCST of the polymer.

22. (Previously Presented) Process according to Claim 17, wherein, for the desorption step, the temperature is varied to a temperature greater than the LCST of the polymer.

23. (Previously Presented) Process according to Claim 5, wherein the LCST of the polymer is between 30 and 40°C.